AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (cancelled)

2.   (cancelled)

3.   (cancelled)

4.   (cancelled)

5.   (cancelled)

6.   (cancelled)

7.   (cancelled)

8.   (cancelled)

9.   (cancelled)

10.   (cancelled)

11.   (cancelled)

12.   (cancelled)

13.   (cancelled)

14.   (cancelled)

15.   (cancelled)

16.   (cancelled)

17.   (cancelled)

18.   (cancelled)

19.   (cancelled)

20.   (cancelled)

21.   (cancelled)

22.   (cancelled)

23.   (cancelled)

24.   (cancelled)

25.   (cancelled)

26.   (cancelled)

27.   (previously presented)   A method for switching a mobile device to a deep sleep mode comprising:

        a)   monitoring a system channel and resetting both a channel lost counter and a channel lost start time value;

        b)   counting a number of times the system channel is lost within a timeout period by incrementing the channel lost counter for each time the system channel is lost and setting the channel lost start time value to a first current Global Positioning System time when the channel lost counter value is one; and,

        c)   entering the deep sleep mode when the system channel count equals a predetermined number.

28.   (original)   The method of claim 27, wherein the step of monitoring includes monitoring one of a pilot channel and a paging channel of the system channel.

29.   (cancelled)

30.   (cancelled)

31.   (cancelled)

32.   (previously presented)   The method of claim 27, wherein the step of incrementing includes setting a channel lost end time value to a second current Global Positioning System time when the channel lost counter value has reached the predetermined number.

33.   (original)   The method of claim 32, wherein the mobile device enters the deep sleep mode when the difference between the channel lost end time value and the channel lost start time value is at least the timeout period.

34.   (original)   The method of claim 33, wherein the step of entering includes resetting the channel lost counter and the channel lost start time value after the mobile device enters the deep sleep mode.

35.   (currently amended)   A method for saving battery power in a mobile device switched to a deep sleep mode, the method comprising:

a)   monitoring a system channel to determine~~;~~

b)   ~~counting~~ a number of times the system channel is lost within a timeout period;

~~c)~~ b)   when the number of times the system channel is lost exceeds a predetermined number, entering a deep sleep mode level of the deep sleep mode, the deep sleep mode having first, second, and third deep sleep mode levels, each of the deep sleep mode levels having associated therewith a respective system acquisition list and a respective sleep time interval ~~when the system channel count equals a predetermined number~~;

~~d)~~ c)   waking up from the deep sleep mode after elapse of the respective sleep time interval associated with the current deep sleep mode level ~~a time interval to sample an RF strength of a system~~;

~~e)~~ d)   iteratively sampling RF signal strength of systems in the respective system acquisition list associated with the current deep sleep mode level ~~comparing the sampled RF condition strength to a predetermined level~~;

~~f)   increasing the time interval if the sampled RF condition strength is less than the predetermined level;~~ and,

~~g)~~ e)   if the sampled RF signal strength of the systems in the respective system acquisition list associated with the current deep sleep mode level is less than a predetermined level, re-entering the deep sleep mode at the subsequent deep sleep mode level.

36.   (cancelled)

37.   (currently amended)   The method of claim ~~36~~ 35, wherein the step of ~~switching~~ re-entering the deep sleep mode includes setting a maximum loop counter value to a predetermined counter value associated with one of the first, second and third ~~level~~ deep sleep ~~modes~~ levels.

38.   (currently amended)   The method of claim 37, wherein the step of ~~switching~~ re-entering the deep sleep mode includes setting the time interval to a predetermined time value associated with one of the first, second and third ~~level~~ deep sleep ~~modes~~ levels.

39.   (currently amended)   The method of claim 38, wherein the predetermined time value associated with the second ~~level~~ deep sleep mode level is greater than the predetermined time value associated with the first ~~level~~ deep sleep mode level.

40.   (currently amended)   The method of claim 39, wherein the predetermined time value associated with the third ~~level~~ deep sleep mode level is greater than the predetermined time value associated with the second ~~level~~ deep sleep mode level.

41.   (cancelled)

42.   (cancelled)

43.   (currently amended)   The method of claim ~~42~~ 35, wherein the ~~first~~ system acquisition list associated with the first deep sleep mode level is a subset of the ~~second~~ system acquisition list associated with the second deep sleep mode level and the ~~third~~ system acquisition list associated with the third deep sleep mode level, and the ~~second~~ system acquisition list associated with the second deep sleep mode level is a subset of the ~~third~~ system acquisition list associated with the third deep sleep mode level.

44.   (currently amended)   The method of claim 35, wherein the step of ~~comparing~~ re-entering the deep sleep mode includes comparing the signal to noise ratio of the RF condition to a predetermined value.

45.   (currently amended)   The method of claim 37, wherein the step of ~~comparing~~ re-entering the deep sleep mode includes setting a mobility flag to true if a Pseudo Noise of the system is unknown.

46.   (currently amended)   The method of claim 37, wherein the step of comparing re-entering the deep sleep mode includes setting a mobility flag to true or if the mobile device is moving.

47.   (original)   The method of claim 45, wherein a phase of the Pseudo Noise is monitored for determining mobility of the mobile device.

48.   (currently amended)   The method of claim 45, wherein the mobile device returns to one of an idle state and the first level deep sleep mode level when the mobility flag is true.

49.   (currently amended)   The method of claim 48, wherein the step of comparing re-entering the deep sleep mode includes

        (i)   incrementing a loop counter when the mobility flag is false;

        (ii)   comparing the loop counter value to the maximum loop counter value; and,

        (iii)   switching the mobile device to one of the second and third level deep sleep mode levels when the loop counter value equals the maximum loop counter value.

50.   (currently amended)   The method of claim 49, wherein step (iii) of switching includes switching the mobile device to the second level deep sleep mode level when the mobile device is in the first level deep sleep mode level.

51.   (currently amended)   The method of claim 49, wherein step (iii) of switching includes switching the mobile device to the third level deep sleep mode level when the mobile device is in the second level deep sleep mode level.

52.   (currently amended)   The method of claim 36 35, wherein the step of switching re-entering the deep sleep mode includes setting a maximum timeout period to a predetermined timeout value associated with one of the first, second and third level deep sleep modes.

53.   (currently amended)   The method of claim 52, wherein the step of comparing re-entering the deep sleep mode includes switching the mobile device to one of the second and third level deep sleep modes levels when the maximum timeout period expires.

54.   (currently amended)   The method of claim ~~36~~ 35, wherein the step of ~~switching the mobile device to one of the second and third level deep sleep modes~~ re-entering the deep sleep mode includes switching the mobile device to the second ~~level~~ deep sleep mode level when the mobile device is in the first ~~level~~ deep sleep mode level.

55.   (currently amended)   The method of claim ~~36~~ 35, wherein the step of ~~switching the mobile device to one of the second and third level deep sleep modes~~ re-entering the deep sleep mode includes switching the mobile device to the third ~~level~~ deep sleep mode level when the mobile device is in the second ~~level~~ deep sleep mode level.

56.   (currently amended)   A mobile device battery power saving system, comprising:

    a)   a channel processor for providing a flag signal indicating loss of a system channel;

    b)   a deep sleep controller for receiving the flag signal, counting a number of times the system channel is lost within a timeout period, and providing a system lost exit flag for entering a deep sleep mode level of the deep sleep mode, the deep sleep mode having first, second, and third deep sleep mode levels, each of the deep sleep mode levels having associated therewith a respective system acquisition list and a respective sleep time interval, when the system channel count equals a predetermined number;

    c)   a variable setting controller for setting deep sleep mode level variables in response to the system lost exit flag and for adjusting the deep sleep mode variables in response to control signals; and,

    d)   a low power controller for iteratively sampling an RF condition parameter at a time interval defined by the deep sleep mode variables and for providing the control signals to the variable setting controller when the RF condition fails to improve.

57.   (previously presented)   The mobile device battery power saving system of claim 56, wherein the system channel includes one of a pilot channel and a paging channel.

58.   (currently amended)   The mobile device battery power saving system of claim 56, wherein the deep sleep mode level variables include a timer value for setting the time interval and a loop count value for setting a number of iterations.

59.   (previously presented)   The mobile device battery power saving system of claim 56, wherein the RF condition parameter includes a signal to noise strength ratio.

60.   (new)   The method of claim 43, wherein the system acquisition list associated with the first deep sleep mode level is a Most Recently Used (MRU) Table list.

61.   (new)   The method of claim 43, wherein the system acquisition list associated with the second deep sleep mode level is a Most Recently Used (MRU) Table list and a Geographical Region (Idle GEO) list.

62.   (new)   The method of claim 43, wherein the system acquisition list associated with the third deep sleep mode level is a Most Recently Used (MRU) Table list, a Geographical Region (Idle GEO) list and a Preferred Roaming List (PRL).